

RAKITIN, Iv.

Notes of a naturalist. IUn. nat. no.10:38 0 '58. (MIRA 11:10)
(Fishes)

GVOZDETSKIY, Nikolay Andreyevich, doktor geogr. nauk; RZHEVUSKAYA,
D.M., red.; RAKITIN, I.T., tekhn. red.

[Recent geographical explorations of Soviet scientists] No-
veishie geograficheskie issledovaniia sovetskikh uchenykh.
Moskva, Izd-vo "Znanie," 1961. 37 p. (Narodnyi universitet
kul'tury. Estestvenno-nauchnyi fakul'tet, no.26)

(MIRA 15:3)

(Geographical research)

POZNER, Andrey Romanovich; VORONOV, A.I., red.; RAKITIN, I.T., tekhn.
red.

[The revolution in physics and the problems of scientific
methodology] Revoliutsiia v fizike i problemy nauchnoi meto-
dologii. Moskva, Izd-vo "Znanie," 1962. 31 p. (Novoe v zhizni,
nauke, tekhnike. II Seriia: Filosofiia, no.9) (MIRA 15:5)
(Physics--Philosophy)

KHRAKOVSKIY, Yefim Mikhaylovich; KANTER, A.I., red.; RAKITIN, I.T.,
tekhn. red.

[Present-day transportation] Sovremennyi transport. Moskva,
Izd-vo "Znanie." (Narodnyi universitet kul'tury: Tekhniko-
ekonomicheskii fakul'tet, no.9) (MIRA 16:10)
(Transportation)

MOSHKOV, Boris Sergeyevich; LEONOVA, T.S., red.; RAKITIN, I.T., tekhn.
red.

[Plant growing in the future; the yield is increasing] Rastenie-
vodstvo budushchego; urozhai umnozhat'sia. Moskva, Izd-vo
"Znanie," 1962. 31 p. (Novoe v zhizni, nauke, tekhnike. V Serii:
Sel'skoe khoziamstvo, no.7) (MIRA 15:5)
(Plant breeding) (Tomatoes)

IYEVLEV, N.I., inzh.; RAKITIN, L.I., inzh.

Casting bronze parts in shell molds. Stroi.i dor.mashinostr. 2
no.9:31-32 S '57. (MIRA 10:11)
(Shell molding) (Bronze)

RAKITIN, P.A.; TCGOPITSKAYA, N.V.[Tohobits'ka, N.V.], red.;
CHEREVATSKIY, S.A.[Cherevats'kyi, S.A.], tekhn. red.

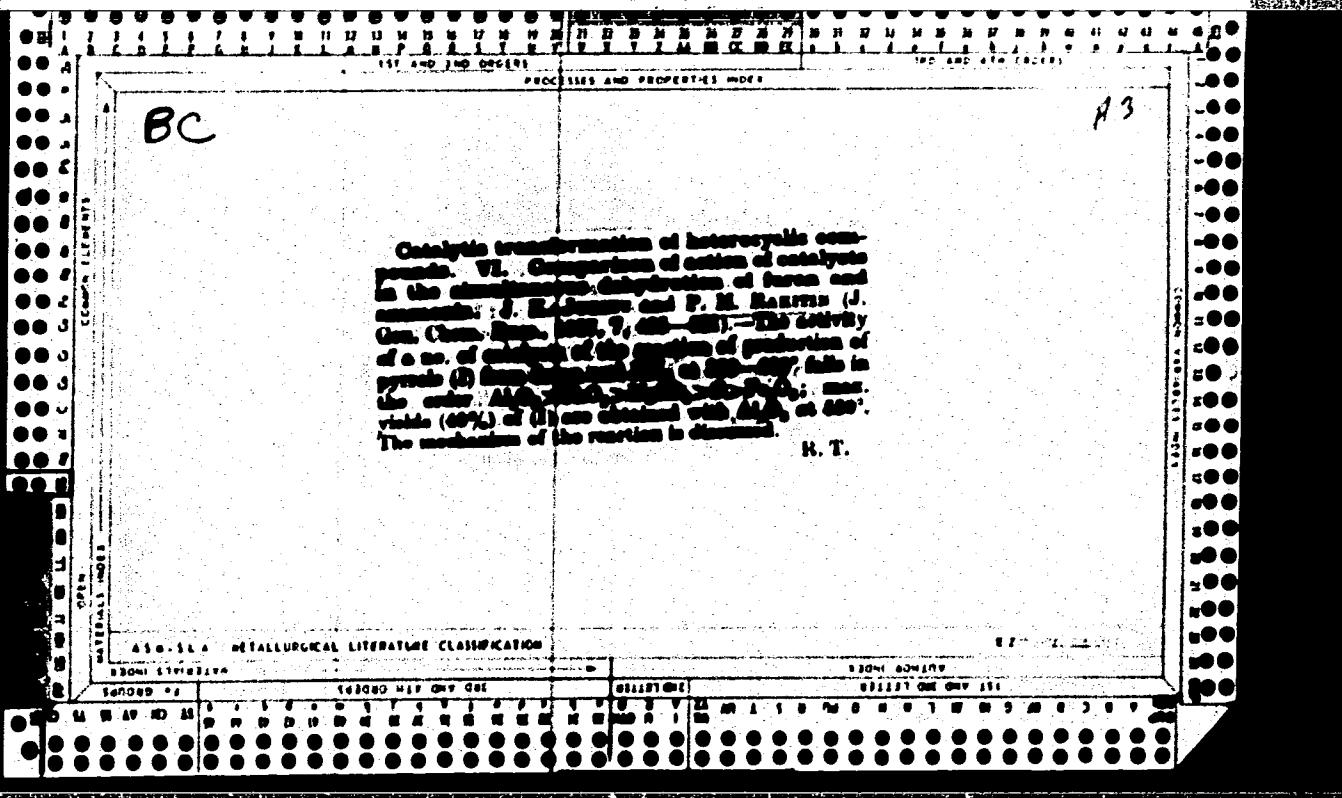
[Manual on the purchasing of agricultural products]
Dovidnyk po zakupkakh sil'skohospodar'skoi produktsii.
Kyiv, Derzhsil'hospvydav URSR, 1962. 214 p.
(MIRA 16:11)

(Produce trade--Handbooks, manuals, etc.)

RAKITIN, P. M.

"Transportations catalytiques des composés heterocycliques. VI. Action comparative des catalyseurs pendant la déshydratation collective du furane et de l'ammoniac." Souriew, J. K. et Makitine, P. M. (p. 485)

SO: Journal of General Chemistry (Zhurnal Obozreniya Khimii). 1937, volume 7, no. 2.



L 20502-65 EPF(n)-2/EPR/EWT(m)/EWP(b)/EWP(e)/EWP(t) Pa-4/Pu-4 IJP(c)
AT/MH/JD/JG

ACCESSION NR: AP4038654 S/0109/64/009/005/0902/0904

AUTHOR: Rakitin, S. P.; Fomenko, V. S.; Paderno, V. N.

TITLE: Results of using the carbides of some metals for the cathodes of electron devices

SOURCE: Radiotekhnika i elektronika, v. 9, no. 5, 1964, 902-904

TOPIC TAGS: electron device, electron device cathode, zirconium carbide cathode, hafnium carbide cathode, niobium carbide cathode, tantalum carbide cathode

ABSTRACT: An experimental study of the possibility of using ZrC, HfC, NbC, and TaC as cathode emitters in electron guns is briefly reported; a vacuum of 10^{-6} torr, an ion bombardment with a few tens kev energy, and a cathode-current density of up to 20 a/cm^2 were used. Emitter tablets of carbide powders, 6 mm in diameter and 1.2-1.3 mm thick, were prepared by hot pressing at 180 kg/cm^2

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ACCESSION NR: AP4038654

for 10-15 min at 3000C. These conclusions are offered: (1) Carbide-type cathodes can be successfully employed in demountable tubes to produce large emission currents under conditions of soft vacuum and severe ion bombardment; their ion-bombardment resistance exceeds that of lanthanum hexaboride; (2) ZrC and HfC cathodes are most promising as they yield up to 20 a/cm² emission at 2000-2200C; (3) Considerable power is needed for heating such cathodes, which is their limitation. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 05Jun63

ENCL: 00

SUB CODE: MT, EC NO REF SOV: 004

OTHER: 000

Card 2/2

S/0294/63/001/001/0145/0142

ACCESSION NR: AP4000407

AUTHORS: Rakitin, S. P.; Fomenko, V. S.; Paderno, V. N.

TITLE: Some results of using transition metal carbides as thermionic emitters in electronic devices

SOURCE: Teplofizika vy*sokikh temperatur, v. 1, no. 1, 1963, 145-148

TOPIC TAGS: transition metal carbide, thermionic emitter, heated cathode, zirconium, niobium, tantalum, electron gun, electron tube design, hafnium

ABSTRACT: To check on the suggestion by M. I. Yelinson and G. A. Kudintseva (Radiotekhnika i elektronika, v. 7, No. 6, 1511, 1962) that the relative hardness and thermal conductivity of the carbides of some metals, as well as the relatively large mean-square displacements of the atomic vibrations, can permit their use for

Card 1/3

ACCESSION NR: AP4000407

cathodes capable of enduring large ion bombardment, a procedure was developed for the manufacture of pellets made of carbides of zirconium, hafnium, niobium, and tantalum. These were tested for use as emitting elements in cathodes of dismountable electron guns under not too high vacuum (on the order of 10^{-5} mm Hg) and under intense ion bombardment (the ion energy reaching several dozen keV). The emission current was large (about 1 A), corresponding to a cathode current density of 15--20 A/cm² and more. It is concluded that cathodes made of these carbides have higher endurance against ion bombardment than those of lanthanum hexaboride. The most promising are cathodes of hafnium and zirconium carbides, which provide an emission current density up to 20 A/cm² at a temperature on the order of 2100--2200°C. A factor limiting the use of such cathodes is the appreciable power necessary to raise these cathodes to the operating temperatures. Orig. art. has: 4 figures and 1 table.

Card 2/3

RAKITIN, S. V.

PAGE 1 DOCUMENTATION 307400

Coordinatees ogranizatsii po priemernyyu na selenii v metallurgicheskikh
svyaziachii s selenii. Seminariya, 1990

Priemernyye na selenii v metallurgicheskikh prepravlyayushchikh selenii materialy

metallurgicheskogo ogranizovaniya (Use of Oxygen in Metallurgical Plants of

the USSR). Materialy 1-soyezda, 1990

152 p. Kirov city [Leningrad]. 1,000 copies printed

Spetsial'nye agentstva Akademii nauchno-tekhnicheskikh sotsial'no-kul'turnykh i
tekhnicheskikh issledovanii. Nauchno-tekhnicheskaya akademiya selenii v metallurgii,
Ural'skiy Uralskaya priemernyya nauchno-tekhnicheskaya sotsial'no-kul'turnaya
akademiya selenii v metallurgii.

Izdat. Nauk. P. S. Rukatin, Candidate of Technical Sciences. Tech. Ed. 1. 1974. Izdat-

USSR.

Primer. This collection of papers is intended for scientific research and
technical personnel in the field of metallurgy.

Technical personnel in the field of nonferrous metallurgy of the Urals
contribute. The use of oxygen in ferrous and nonferrous metallurgical

plants is presented. During the Conference, [the author] took part in

lectures by the following persons (in addition to the author):

[In discussion] V. N. Miller, V. V. Mihajlov, P. F. Borodkin, A. A. Ponomarenko

(all affiliated with the Institute of Metallurgy at the Urals Branch of the

Ural'skiy Nauchno-tekhnicheskii metallurgicheskii selenii - Magnitogorskii

Metallurgical Plant); M. I. Sosulin (General Design Institute of

Metallurgical Plants); M. V. Gerasimov (General Design Institute of

Metallurgical Plants); V. V. Kostylev (Chelyabinskii

Nauchno-tekhnicheskii selenii - Chelyabinskii Metalloobrabotivayushchiy selenii - Chelyabinskii Copper Smelting Plant).

V. V. Miller (Institut Selenii - Magnitogorskii Institute), one of the

participants followed by references, both scientific and non-scientific.

15

Borodkin, P. I. [Uralskiy Metalloobrabotivayushchiy selenii]. Experimental Use

of Oxygen in Open-Search Furnaces.

Borodkin, A. A. [Uralskiy Nauchno-tekhnicheskii metallurgicheskii selenii. Metal-

lloobrabotivayushchiy selenii]. Institute of Metallurgy of the Urals

Branch of the Academy of Sciences USSR, Chelyabinskii

Furnace for the Production of Steel. Experimental Use of Oxygen in the Chelyabinskii

Furnace]. Experimental Use of Oxygen in the Chelyabinskii

Furnace]. Chelyabinskii Politekhnicheskii Institut. Izdat. Selenii. Kirov

Nauchno-tekhnicheskii selenii - Chelyabinskii Metalloobrabotivayushchiy selenii - Chelyabinskii Copper Smelting Plant].

Features of Coke-Baking Technique in Steel Making with the Use of Oxygen

15

Kostylev, S. V. [Uralskiy Metalloobrabotivayushchiy selenii. Metalloob-

rabotivayushchiy selenii]. General Design Institute of the Design and Planning

Institute of the Urals Branch of the Academy of Sciences USSR].

Miller, V. V. [Uralskiy Metalloobrabotivayushchiy selenii. Metalloob-

rabotivayushchiy selenii]. All-Union Scientific Research Institute of Metal-

urgical Research Institute]. Operation of Gas Generators in the

Open-Search Furnace. Tula Chernobrashchikov Blast.

15

The following conference participants, I.P. Miller, all staff members of the Sev-

verstal'nyy Metalloobrabotivayushchiy selenii - Chelyabinskii Metalloobrabotivayushchiy selenii - Chelyabinskii Copper Smelting Plant], and V. V. Kostylev, A. V. Kosyagin, V. V. Kostylev, A. V. Kosyagin, and V. V. Kostylev, all staff members of the

Chelyabinskii Metalloobrabotivayushchiy selenii - Chelyabinskii Metalloobrabotivayushchiy selenii - Chelyabinskii Copper Smelting Plant].

15

Borodkin, A. A. [Severnyy Metalloobrabotivayushchiy selenii - Severnyy Metalloob-

rabotivayushchiy selenii]. On the Efficiency of Applying Oxygen to Open-Search Fur-

naces for Steel and to Gas Generators.

Borodkin, A. A. [Uralskiy Metalloobrabotivayushchiy selenii. Metalloob-

rabotivayushchiy selenii]. Use of Oxygen in the Copper Industry.

Borodkin, A. A. [Dzerzhinskii Metalloobrabotivayushchiy selenii. Metalloob-

rabotivayushchiy selenii]. Short-Period Smelting of Calcined Nickel Ore with Oxygen.

15

Resolution

15

DAVANKOV, A.B.; LAUFER, V.M.; RAKITIN, S.V.; LEVIAN, L.O.; CHERNOBAY,
A.I.

Recovery of noble metals by anion-exchange resins from waste
and industrial solutions of electrolytic copper plants. Izv.
vys.ucheb.zav.; tavet.met. 2 no.6:134-141 '59.
(MIRA 13:4)

1. Moskovskiy khimiko-tehnologicheskiy institut. Kafedra
tehnologii plastmass.
(Copper industry--By-products) (Ion exchange)
(Precious metals--Metallurgy)

ACC NR: AN7003350

SOURCE CODE: UR/9009/67/000/011/0004/0004

AUTHOR: Rakitin, V.; Presnyakov, A. (TASS Correspondent)

ORG: none

TITLE: Self reproducing machine

SOURCE: Leningradskaya pravda, no. 11, 13 Jan 67, p. 4, col. 6-7

TOPIC TAGS: electronic computer, computer programming, computer design,
computer application / Ural-4 electronic computer

ABSTRACT:

A self-reproducing machine has been designed at an electronic computer plant. The Ural-4 was used to work out technological processes for creating parts identical to those from which it was made. Having obtained the program, the Ural-4 models the intellectual activity of a highly qualified technologist. After about 1.5 minutes, the machine starts to deliver the projected technological diagram, which contains all the data for making the parts. The computer reduced the time of preparing the technological documentation by 5-6 times and halved the cost.

SUB CODE: 09 / SUBM DATE: none / ATD PRESS: 5113

Card 1/1

FILIPSKIKH, A.A.; RAKITIN, V.R.

Defect of the steam strainer bracing of the automatic stop valve
of a steam turbine. Prom. energ. 20 no.1:26 Ja '65. (MIRA 18:4)

RAKITIN, V.S., inzh.

Redesigning of a reducing and cooling system with 40/16 atm. rating.
Energetik 11 no.2:12-13 F '63. (MIRA 16:3)
(Boilers)

HAKITIN, V.S., inzhener.

Homemade, multiple-scale draft meter. Energetik 2 no.3:12 Mr '54.
(MLRA 7:5)
(Pressure gauges)

ACC NR: AT7004344 (A,N) SOURCE CODE: UR/2657/66/000/015/0058/0076

AUTHOR: Dobronravov, O. Ye.; Rakitin, V. V.; Chugunov, A. V.

ORG: none

TITLE: Investigation of the dynamics of voltage-pulse tunnel-diode elements

SOURCE: Poluprovodnikovyye pribory i ikh primeneniye; sbornik statey, no. 15, 1966, 58-76

TOPIC TAGS: logic element, tunnel diode

ABSTRACT: Single-diode monostable and bistable and two-diode monostable logic circuits are considered, as is a two-diode bistable storage element. Operation of these circuits under different conditions and their interaction (when used jointly) was investigated on an analog computer. A universal trigger circuit with GaAs tunnel diodes was tested as a shift register, counter element, etc. The maximum

Card 1/2

UDC: 621.382.014.2:621.382.233

ACC NR: AT7004344

working frequency of the circuit exceeded 20 Mc, and the delay per element was 1 nsec. In a Soviet Editor's comment added to the article, it is pointed out that the practical use of the above circuit "is connected with great difficulties because, with a threshold equal to 15% peak current, the gain of the elements does not exceed 2-3." Orig. art. has: 12 figures and 30 formulas.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 001 / OTH REF: 003

Card 2/2

STROGOVSKY, N.V.; KAFTRIK, V.YU.; MORDOVIA, L.A.

Homogenized food products in aluminum tubes. Truly VNIIKOF no.111
7-11 '62. (MICA 17:9)

RAKITIN, V.Yu.; STEPCHKOV, K.A.

Studying the coloring of dry yeast. Gidroliz. i lesokhim. prom. 18
no. 6:13 '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut biosinteza
belkovykh veshchestv.

USSR / General Problems of Pathology. Tumors.
Comparative Oncology. Human Tumors.

Abs Jour : Ref. Zhur - Biologiya, No. 3, 1959, 13660

Author : Ryumshin, G. I.; Rakitin, V. A.

Inst :
Title : A Rare Case of Malignant Tumor of an Accessory
Mammary Gland in a Man.

Orig Pub : Vopr. onkologii, 1957, 3, No. 3, 358-359

Abstract : No abstract

Card 1/1

Kapiton, V.P., podpolkovnik meditsinskoy sluzhby

Treatment of patients with foreign bodies in the gastrointestinal tract.
Voen.-med.zhur. no.11:70-71 '64. (MIRA 18:5)

RAKITIN, Ya.A., podpolkovnik meditsinskoy sluzhby; USOV, D.V., major
meditsinskoy sluzhby

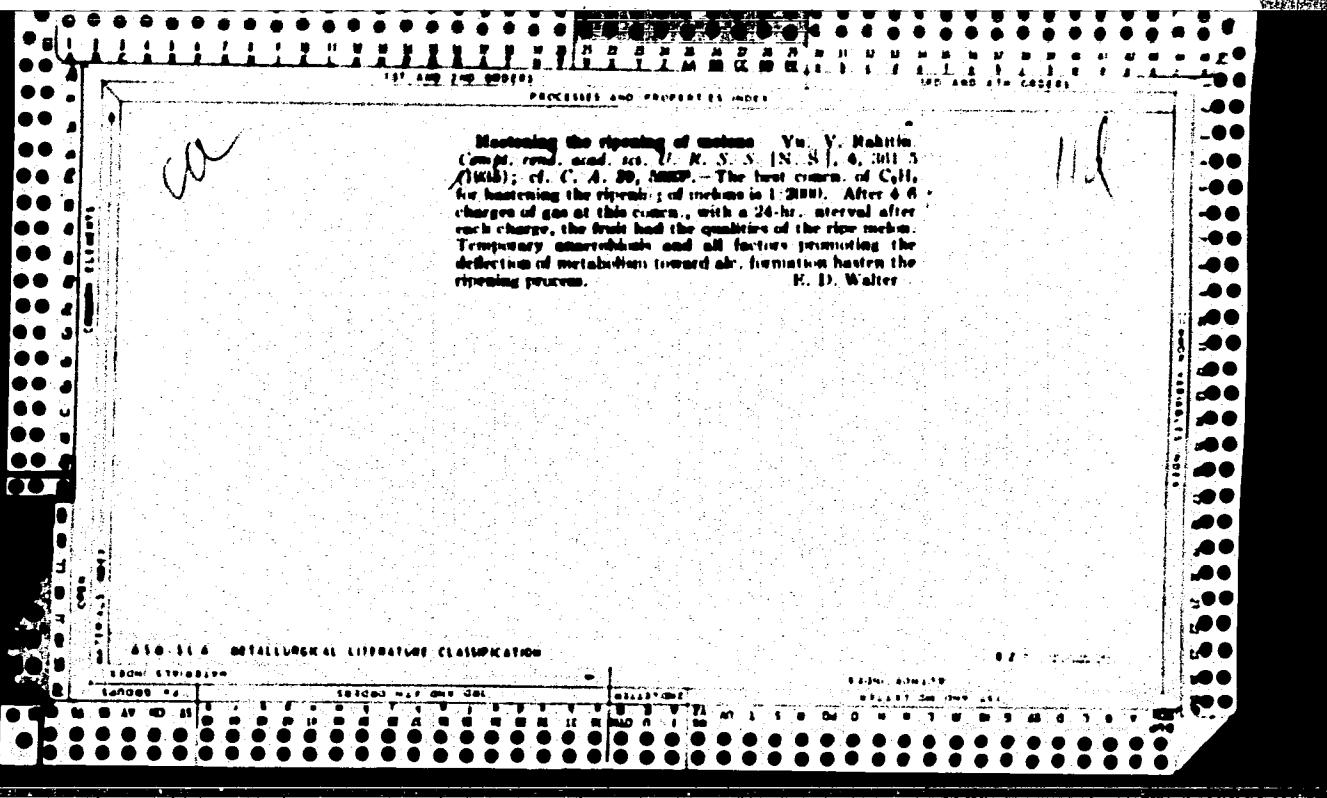
Result of surgical treatment in stenocardia. Voen.-med. zhur.
no.8:73-74'62. (MIRA 16:9)
(HEART—SURGERY)

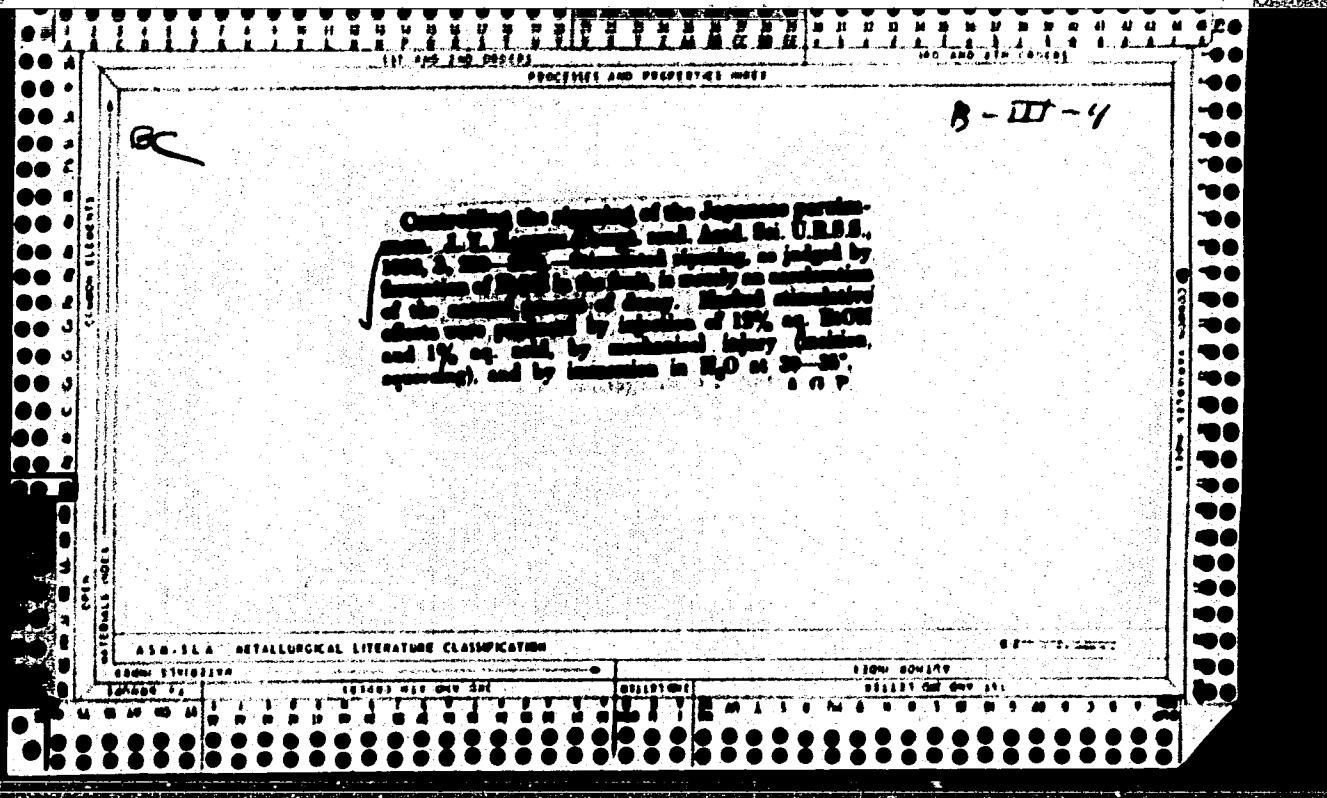
RAKITIN, Ya.A.; RYUMSHIN, G.I. (Leningrad, per. Kakhovskogo, d.5, kv. 25)

Rare complications in appendicitis not treated by surgery. Vest. khir. 80 no.2:116-117 F '58. (MIRA 11:3)

(APPENDICITIS, compl.
in non-operated cases (Rus))

The action of various factors accelerating the ripening of fruit. Yu. V. Rakitin, F. Bulatov and A. Stolyarov. *Bull. acad. sci. U. R. S. S., Classe sci. math. nat.* 1935, 1120 8; cf. *C. A.* 30, 4541. Stimulation of the anaerobic processes in fruit by storing in C_2H_2 , H_2O at 35°, H_2 or closely packing in desiccators accelerates ripening. The same effect can be produced by injecting AcCO_2H , AcH or EtOII into the fruit. All of these treatments which stimulate the anaerobic processes increase the EtOII and AcH content of the fruit. There is an optimum duration of treatment. Prolonging the treatment beyond this increases again the time required for ripening. For practical artificial ripening a combination of a treatment rapidly stimulating anaerobic processes followed by a period of good aeration is recommended. The influence of temporary anaerobiosis on the rate of ripening of fruit. Ya. V. Rakitin. *Ibid.* 1120 35. A discussion of applications. Lewis W. Butz





[Redacted]

Absorber for acetaldehyde determinations. *Vin. V. Rabimov*, *Compt. rend. acad. sov. U. R. S. S.* **14**, 443-8 (1937) (in English). In a slight modification of the method of Erdmann, Cotonio and Shaffer (*C. I. 21*, 2711) the current of air carrying the AcH vapor passes into the bottom of the absorber and then through a sintered glass disk fixed near the bottom. Ten cc. of 0.5% NaHSO₃ solution is placed above the disk. The air is broken into very small bubbles in passing through the disk and the absorption of AcH is complete. — J. R. Gibson

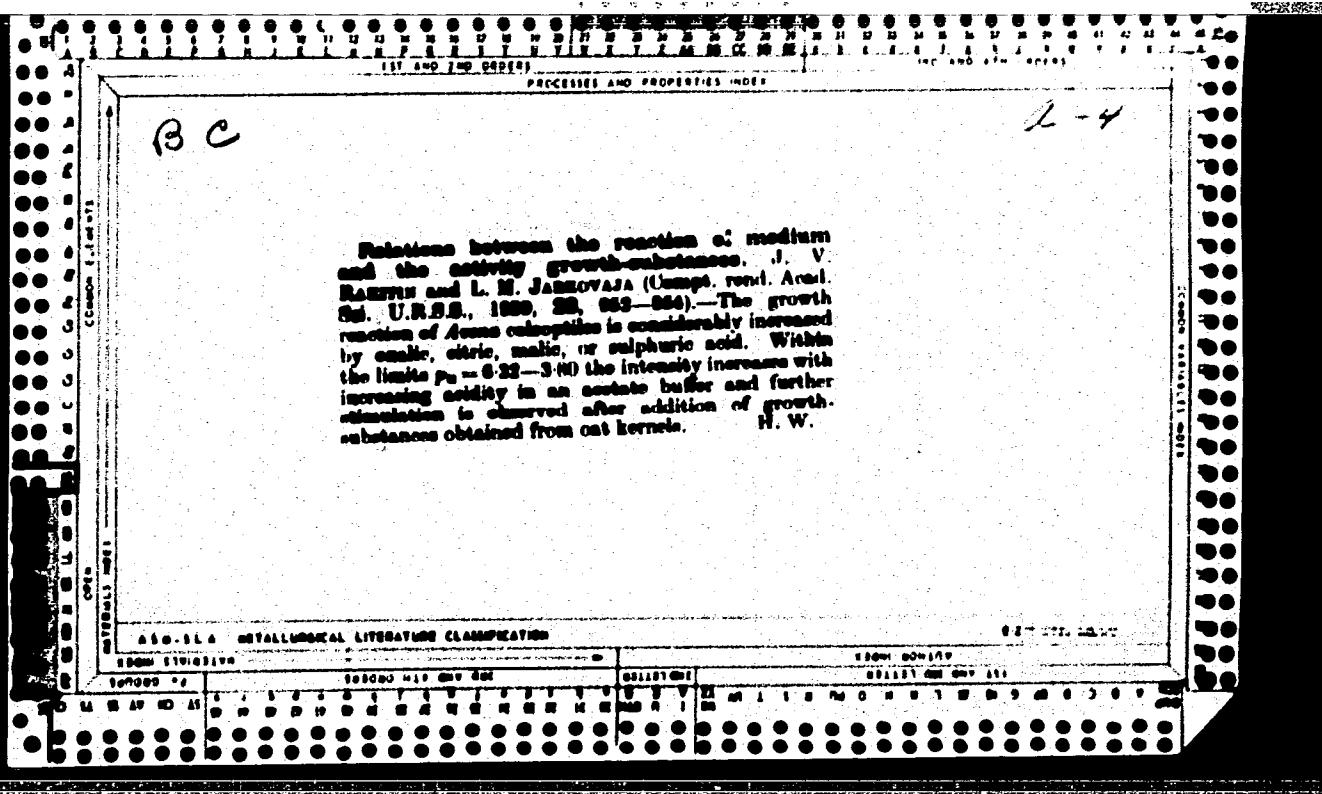
[Signature]

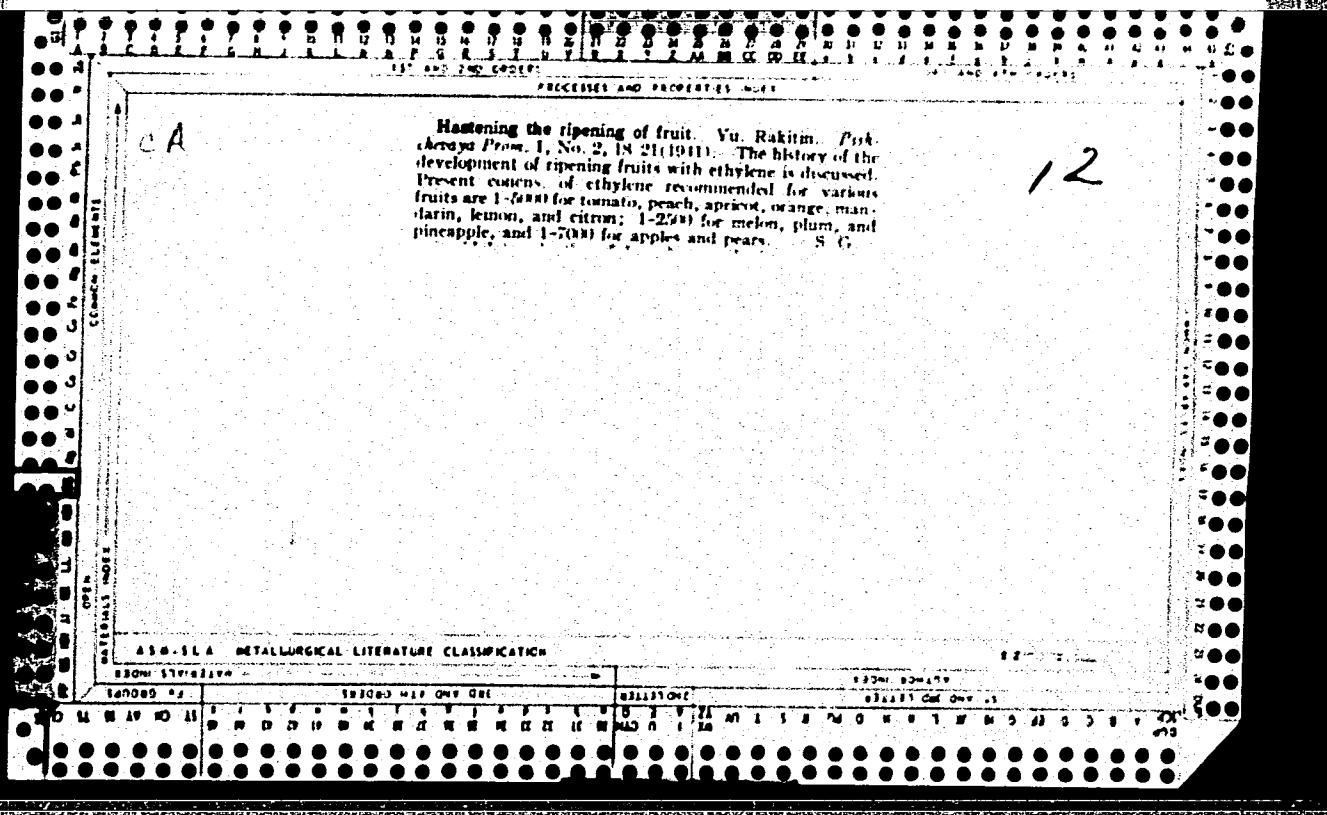
Degeneration of potato cultivated in the south. V. V. Rakitin and P. M. Shumova. *Camp. rend. Acad. sci. U. R. S. S.* 20, 181-4 (1938) (in English).--Tubers of Epionrus and Early Rose varieties were kept at 20-21° and 40-45° for 24 hrs., and the following values obtained for those at the lower temp. rated as 100: respiration, 220; ETOH, 110; CH₃CHO, 190; amides, 35; NH₃, 170.

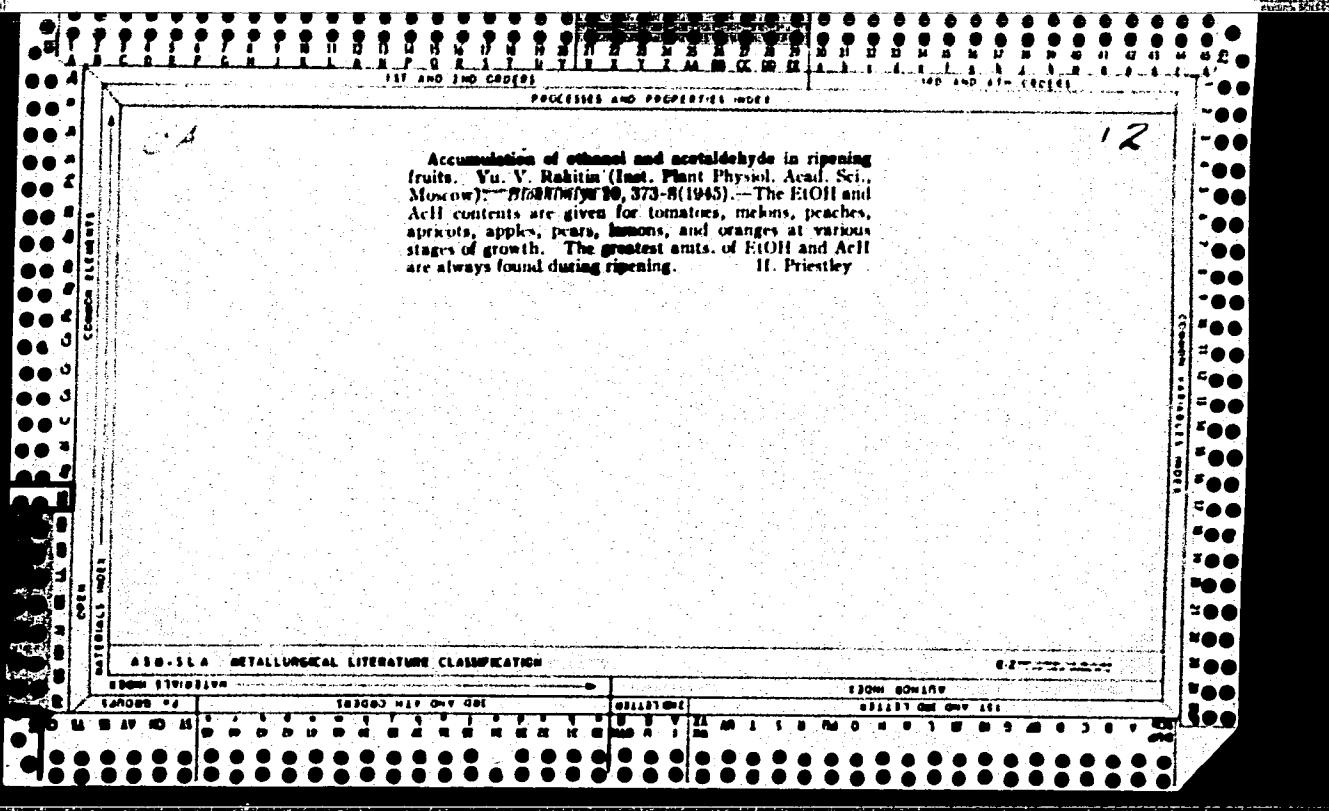
J. J. Willaman

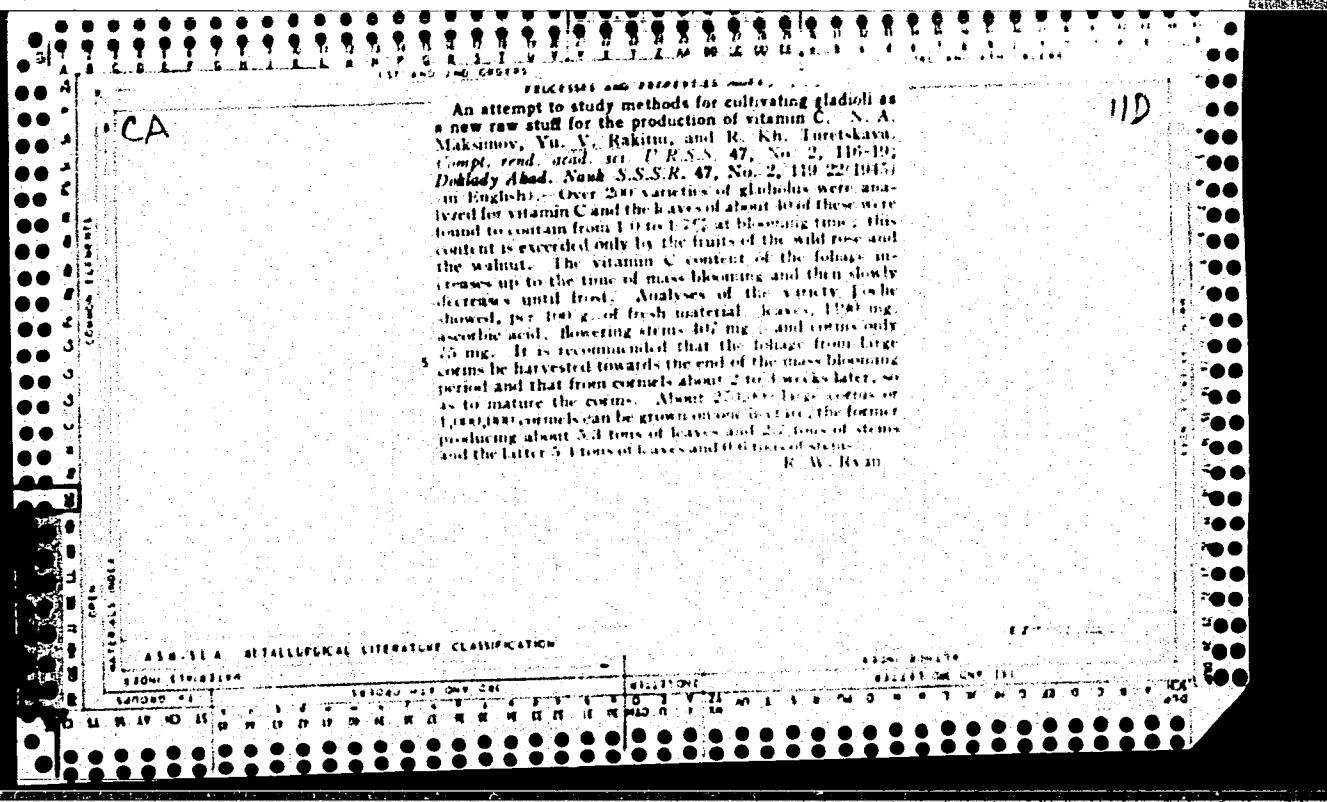
БАХТИН, Ю. В.

"Distribution of Bios in Leaf of Liverwort and Vine," Dok. Akad. Nauk SSSR, No. 2, 1929.
Timiriazev Inst. of Plant Physiol. Acad. Sci. Moscow. c1930-





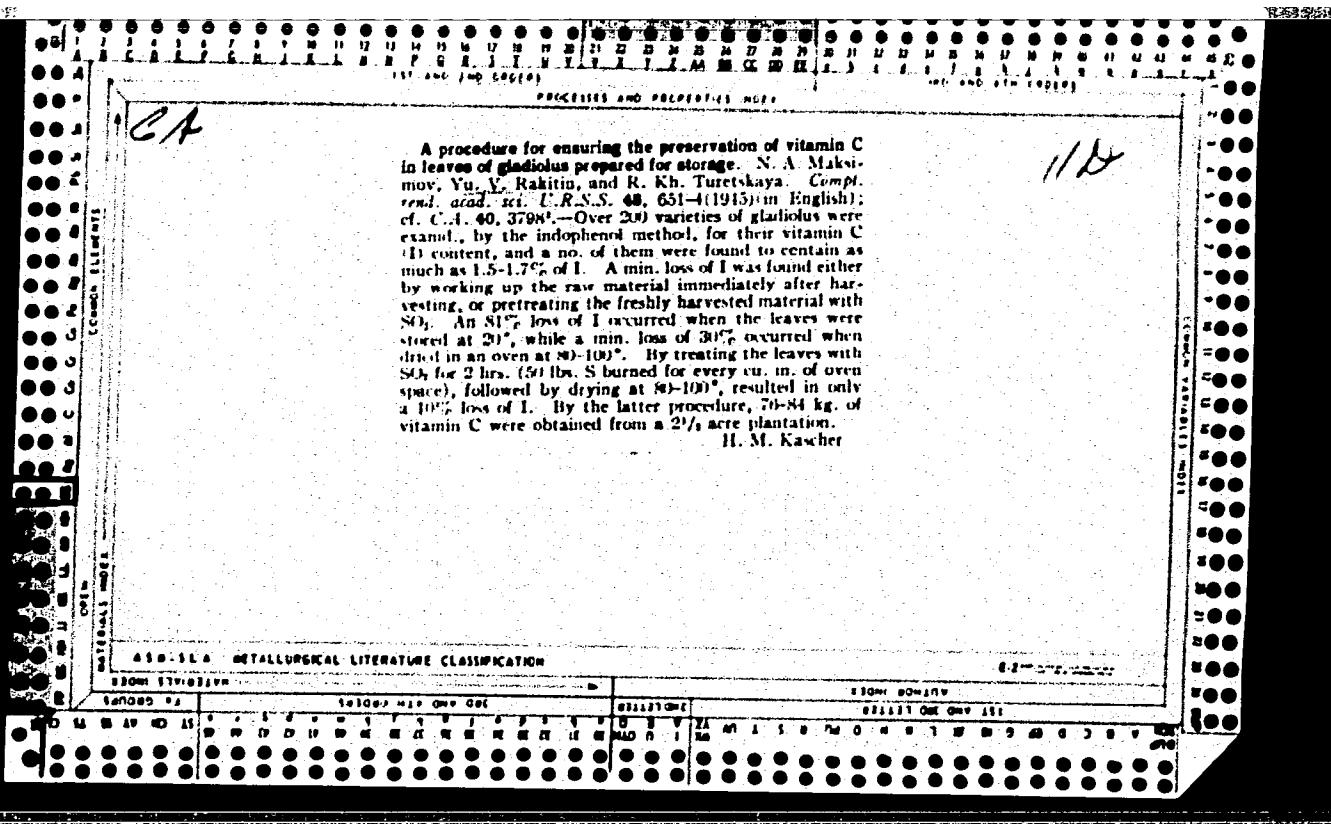




RUMYANTSEV, J. V.

"Relation Between Seeds and Pericarp in the Process of Fruit Growth and Ripening,"
Dok. AN, 47, No. 4, 1945.

Inst. of Plant Physiology im. K. A. Timiriazev Mbr. Acad. of Sci. c1944-



CA

11D

Effect of ethylene on the activity of carboxylase in ripening fruits. Yu. V. Rakitin (Inst. Plant Physiology, Acad. Sci., Moscow). *Zhukhinaia Biologiya*, 11, 1966. During the natural ripening of fruits, or when the ripening is induced artificially by ethylene, the activity of carboxylase and oxcarboxylase increases. R. Prostler

AIR 364 METALLURGICAL LITERATURE CLASSIFICATION

"APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R001344

RAKITIN, Yu. V.

"Effect of Growth Substances in Plants, by Yu. RAKITIN. Russian, per Kolkhoz
Proizvod, Vol. VII, No. 12; Dec 1947, p. 44; 281.8 K83 USDA Tr No 74

APPROVED FOR RELEASE: Tuesday, August 01, 2000

CIA-RDP86-00513R0013441

RAKITIN, Yu.V.

Change in carboxylase activity in ripening fruit. Trudy Inst.fiziol.
rast. 6 no.1:201-206 '48. (MLRA 9:9)

1.Institut fiziologii rasteniy imeni K.A.Timiryazeva AN SSSR.
(Carboxylases) (Fruit--Ripening)

RAKITIN, Yu.V.

Effect of temporary strengthening of anaerobic processes on the
rate of fruit ripening. Trudy Inst.fiziol.rast.6 no.1:207-211
'48. (MLRA 9:9)

I.Institut fiziologii rasteniy imeni K.A.Timiryazova AN SSSR.
(Fruit--Ripening) (Fermentation)

RAKITIN, YU. V., Prof

PA 13/4786

UNR/Medicine -- Botany
Medicine -- Reproduction

Jul 48

"Internal Factors of Fruit Formation and Regulatory Substances," Yu. V. Rakitin, Prof, 18½ pp

"Vest Ak Nauk SSSR" No 7. pp. 49-67

Discusses formation of reproductive organs, fertilization, growth and ripening of fruit, relation of seed to pericarp, relation of flower and fruit to mother plant and internal factors which control these phenomena. Describes effect of growth substances (auxin, lanolin, etc.) and action of ethylene.

10/49786

RAKITIN, Yu. V. and Oharov, K.E.

"Growth Substances as a Possible Means of Controlling the Drop of Cotton Yolls,
by Yu. V. RAKITIN, K. E. Oharov.
Russian, per, Dok Ak Nauk SSSR; Vol. LIX, 21 Mar 1948; pp 1665-1668; USDA Tr No 32

RAKITIN, YU. V.

USER/Medicine - Plants, Physiology
Medicine - Variation

MAY 1948

"Formation Variations in Cotton Plants Under the Influence of 2,4-Dichlorophenolhydroxyacetic Acid," Yu. V. Rikitin, K.Ye. Ovcharev, Ye.K. Nizkovskaya, Inst. of Plant Physiol imeni K.A. Timiryazev, Acad Sci USSR, 3 pp

"Dok Ak Nauk SSSR, Nov Ser" Vol IX, No 6

Results of studies conducted to determine the formation variations in cotton plants that are the result of the administration of 2,4-dichlorophenolhydroxyacetic acid (HU). Tests were conducted in 1947 at the Farm imeni Kirov. Submitted by Academician N.A.

67T28

USER/Medicine - Plants, Physiology (Contd) May 1948

Makarimov 22 Mar 1948.

67T28

HAKITIN, Yu. V.

USSR/Medicine - Nicotinic Acid
Medicine - Cotton

Aug 48

"Action of Adenine and Nicotinic Acid on the Growth
and Reproductivity of the Cotton Plant," Yu. V.
Hakitin, K. Ye., Ovcharov, Inst of Plant Physiol imeni
K. A. Timiryazev, Acad Sci USSR, 2 pp

"Dok Ak Nauk SSSR" Vol LXI, No 5

Finds subject action to be positive and explains it
by the fact that this plant, for some reason, lacks
physiologically active substances.

24/49791

FACTORY, U.S.S.R.

USSR/Agriculture
Food - Preservation

May 49

"Retardation of Potato Tuber Sprouts With Chemical Preparations," Yu.V. Rakitin, A. V. Troyan, 3 3/4 pp

"Dok Ak Nauk SSSR" Vol LVI, No 3

Use of methyl ether of alpha-naphthyl acetate and urethan to prevent sprouting increases storage time and preserves edible and technological qualities of the tuber, but further study of effect on edibility and seeding is indicated. Submitted by Acad N. A. Maksimov, 19 Mar 49.

52/49T13

CA

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Retardation of opening of buds on fruit trees by means of
chemical agents Yu. V. Rakitin and L. M. Krusikov
Obozr. Khim. Nauk S.S.R. 76, 265-7 (1951) B.A.

RAKITIN, Yu. V.; OVCHAROV, N.E.

The increase of the productivity of a cotton plant by the removal of bolls and by the prevention of the growth of shoots in the autumn

Dok AN SSSR, Vol 50, No 1, 1 Sep 51, p. 117

USSR/Biology, Agriculture - Growth Stimulants May 52

"Inhibition of the Sprouting of Potato Tubers," Prof Yu. V. Rakitin, Inst of Plant Physiol Inneni K. A. Timiryazev, Acad Sci USSR

"Priroda" Vol 41, No 5, pp 106-109

Rakitin states that the USSR is the largest potato producer in the world, and that considerable economic losses are therefore caused by premature sprouting of potatoes. Describes expts with 100 growth activators (naphthyl and phenoxy acetic acids, carbamates) at his institute, which

230T2

finally resulted in the selection of methyl ester of alpha-naphthylacetic acid as the most effective and least harmful inhibitor of potato sprouting. Rakitin states that this chem was tested on a production scale.

230T2

RAKITIN, YU. V.

USSR/Biology - Stimulation of Growth Nov/Dec 53

"The Problem of Stimulating Growth as Applied to the Tasks of Agriculture," Yu. V. Rikitin, Moscow

Usp Sov Biol, Vol 36, No 3 (6), pp 289-314

The author surveys expts and theories on the stimulation of animal and plant growth. He discusses the stimulation of the physiological processes of plants by the use of chemical compounds, ultra-sound, various types of radiation, electric currents, and various thermal and mechanical means. He compares the work of Soviet and non-Soviet scientists in this field. He cites many

273T3

non-Soviet publications, but bases his comments mainly on Soviet authorities, among them Timiryazev, Pavlov, Michurin, and Lysenko.

273T3

1. RIKITIN, Yu. V., Prof.
2. USSR (600)
4. Potatoes
7. Formation of young tubers on old potato tubers, Priroda 42, No. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

USSR.

✓Effect of vapors of the methyl ester of 3,4,5-trichlorophenoxyacetic acid on fruit formation in tomatoes. Yu. V. Rakitin and A. V. Krylov. *Dobrody Akad. Nauk S.S.R.* 1950, 141-3 (1953).—Vapors of Me 2,4,5-trichlorophenoxyacetate at concns. of 0.125-4 mg./cu. m. were brought into contact with tomato plants for 17 hrs. The action is visible within a few hours by the leaf reaction. The treatment gave an increase of fruitful pollination when the ester was at 1 mg./cu. m. concn. or lower; higher concns. reduce the crop yield. The strongest neg. effect of the latter appears with the buds of flowers. Up to 2-mg. dose the ester hastens ripening, while doses up to 0.25 mg. give larger tomatoes. High doses slow down the general plant growth and development. The best time for treatment is the bud-opening period. G. M. Kosolapoff

RAKITIN, Yu.V.; KRYLOV, A.V.

Problem of the distribution and transformation of growthpromoting substances in plants. Fiziol.rast. 1 no.2:173-180 N-D '54. (MIR 8:10)

1. Institut fiziologii rastenii imeni K.A.Timiryazeva Akademii nauk SSSR, Moscow
(Plants--Metabolism) (Growthpromoting substances)

RAKITIN, Yu.

* Fall checking of cotton plants' chemically. Yu. V. RAKITIN, V. F. Petrov, K. E. Ovcharov, V. V. Grinenko, and V. F. Shcheglova. *Izvest. Akad. Nauk Tadzhik. S.S.R., Otdel. Estestven. Nauk* 1954, No. 8, 201-9; *Refer. Zhar. Khim., Biol. Khim.* 1955, No. 6771.—The use of 2,4,5-trichlorophenoxyacetic acid during the fall sprouting of cotton disturbs the metabolic processes of the young buds, the foci of new growth and of young leaves by arresting their respiratory processes, and the rate of CO₂ assimilation and lowers the level of their oxidative processes. This in turn leads to an accumulation of NH₃ and dehydroascorbic acid, and results in the ultimate death of the parts of the plants thus affected. In the leaves of the midsection of the plants and in the formed pods the effect on the metabolic processes is reversed. The maturing of the pods is hastened and the yield in raw fiber is increased. B. S. Levin

(4)

RAKITIN, Yu. B.

USSR/Biology - Growth Accelerator

Card : 1/1

Authors : Rakitin, Yu. B., Doct. of Biological Scs.

Title : Acceleration of growth and ripening of tomatoes

Periodical : Vest. AN SSSR, 24, Ed. 5, 55 - 57, May, 1954

Abstract : Points out that the chemical compound "TU" applied to tomato plants speeds up the growth and the ripening time of tomatoes.

Institution : ...

Submitted : ...

RAKITIN, Yu. V.

USSR/Agriculture Fruit growing

Card : 1/1

Authors : Rakitin, Yu. V., Professor

Title : Acceleration of Ripening of Fruit

Periodical : Priroda, 43/7, 53 - 61, July 1954

Abstract : Various experiments in ripening fruit artificially are described. These culminated in the discovery that ethylene develops in fruit at time of ripening. On this discovery is based the process of supplying ethylene artificially. The methods and devices used are described. Illustrations.

Institution :

Submitted :

RAKITIN, Yu. V.

USSR/Physiology of Plants

Card 1/1

Authors : Rakitin, Yu. V.; Ovcharov, K. E.; Grinenko, V. V.; and Shcheglova, V. P.

Title : Physiological transformations in a cotton plant during its fall chemical topping.

Periodical : Dokl. AN SSSR, 95, 6, 1337 - 1340, 21 Apr 54

Abstract : Topping of cotton plants increases the harvest. The topping has usually been done in the spring time. It consisted of breaking off the tips of the plants. The authors suggest spraying chemicals over the tips of the plants, which would prevent the tips from growing. This spraying has the same effect as the regular topping, producing a better harvest for less money. Manual topping usually increases the harvest by 10.8%, Chemical topping by 18.9%. One of the best chemicals to use for the topping is sodium salt of 2, 4, 5 - trichloro-phenoxy-acetic acid, called TU compound; three tables.

Institution : K. A. Temiryazev Inst. of Physiology of plants of the Acad. of Scs. of the USSR and Botany Institute of the Acad. of Scs. of Tadzh, SSR.

Submitted : 27 Feb 54

SODING, H; SAMYGIN, G.A.[translator] RAKITIN, Yu.V., professor, redaktor;
ENDEH, M.G., redaktor; GERASIMOVA, Ye.B., tekhnicheskiy redaktor.

[Growth promoting substances. Translated from the German] Rostovye
veshchestva rastenii. Perevod s nemetskogo. Pod red. i s predisl.
Iu. V.Rakitina. Moskva, Izd-vo inostrannoi lit-ry, 1955 387 p.
(Growth promoting substances) (MLRA 8:11)

RAKITIN, Yu.V.

Inhibition of sprouting in potato tubers during long storage.
Fiziol.rast. 2 no.1:84-89 Ja-F '55. (MIRA 8:9)

1. Institut fisiologii rasteniy imeni K.A.Timiryaseva Akademii
nauk SSSR, Moscow
(Growth inhibiting substances) (Potatoes--Storage)

RAKITIN, Yu.V.; OVCHAROV, K.Ye.; BREGETOVA, L.G.

New chemicals for cotton defoliation. Fiziol.rast.2 no.2:177-
181 Mr-Ap '55. (MLRA 8:10)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii
nauk SSSR, Moscow
(Cotton) (Agricultural chemicals)

AC ✓ Destruction of submerged aquatic vegetation with herbicides. Yu. V. Rakitin and Yu. D. Sumeleva (Ministry Electric Power Stat., Moscow). *Fiziol. Rastenii* 2, 506-8- (1955).—The phenoxyacetic acid derivs. which are common herbicides are shown to be effective destroying agents for submerged vegetation which is undesirable in water reservoirs of electric power stations. G. M. Kosolapoff

(1)

RAKITIN, Yu.V., professor

Stimuli and herbicides. Znan.sila 30 no.10:10-14 0'55.
(Agricultural chemistry) (MLRA 8:12)

RAKITIN, Yury Vladimirovich, doktor biologicheskikh nauk; STAROSTENIKOVA,
M.M., redaktor; ISLEM'T'YEVA, P.G., tekhn. redaktor.

[Controlling the vital functions of plants] Upravlenie zhiznedeiatel'-
nost'iu rastenii. Moskva, Izd-vo "Znanie," 1956. 38 p. (Vsesoiuznoe
obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii.
Ser.3, no.22)

(MLRA 9:7)

(Botany--Physiology) (Plant breeding)

RAKITIN, Yu.V.; KRYLOV, A.V.; KOLESNIK, A.A.

On dark fixation of carbon dioxide by plants [with English summary in
insert] Fiziol.rast. 3 no.3:225-232 My-Je '56. (MLRA 9:9)

1. Institut fiziology rasteniy imeni K.A.Timiryazeva Akademii nauk
SSSR, Moskva.
(Carbon dioxide) (Carboxylation) (Plants--Assimilation)

RAKITIN, Yu. V.

Some changes in metabolism of flowers and plants of tomato after action of 2,4-D and 2,4,3-T. Yu. V. Rikitin, K. L. Povolotakaya, and D. M. Sedenko (K.A. Timiryazev Inst. Plant Physiol., Acad. Sci. U.S.S.R., Moscow). *Fiziol. Rastenij* 3, 297-306(1958).—Application of stimulative doses of 2,4-D and 2,4,3-T to tomato flowers results in increased activity of oxidation-reduction enzymes, increased concn. of P components, particularly protein-lipide P with a higher ratio of org. P to inorg. P. Use of hindering doses of the substances disorganizes the oxidation-reduction systems, usually by enhancement of peroxidase and reduction of polyphenoloxidase systems. Respiration rises mainly in flavo-protein portion. Under these conditions the plant accumulates P, mainly inorg. forms and the ratio of org. to inorg. P declines. G. M. Kogolapoff

3

RAKITIN, Yu. V.

Magnesium chloride as an effective defoliant for cotton.
Yu. V. Rikitin, K. B. Ovcharov, and L. Bregetova. *Khlopotovost* 6, No. 6, 32-5 (1956).—A 20% soln. of $Mg(ClO_4)_2 \cdot 6H_2O$ (I) was studied for its defoliant properties in the cotton plant. Application of 6-7 kg. of I per ha. of cotton lowered the water content and the photosynthetic activity of the leaves. This change led to the more rapid removal of the leaves from the plant. Higher doses of I (9-10 kg./ha.) caused a marked disintegration of the physiological processes of the leaves to set in so quickly that they dried out and remained on the plant. I soln. was applied by airplane at the rate of 250 l./ha. or 0.6 kg./ha. of active in-

gredients and 88.4% of the leaves fell off after 9 days. I did not harm the cotton fiber. I and endotal both speeded up the opening of the cotton balls; ethylene was the most effective in this respect. Comparative tests of $CaCN_2$ and I as a defoliant showed the latter to be superior. M. D.

RAKITIN, Yu.V., doktor biologicheskikh nauk; OVCHAROV, K.Ye., kandidat
biologicheskikh nauk.

Effectiveness of cotton defoliants. Dokl.Akad.sel'khoz. 21 no.
10:9-13 '56. (MLRA 9:11)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva Akademii
nauk SSSR. Predstavлено академиком I.S. Varuntayanom.
(Cotton growing)

RAKITIN, Yu.V., professor; KRYLOV, A.V.; KOLESNIK, A.A.

Role of gases in vegetable and fruit storage. Priroda 45 no.10:97-99
O '56. (MLRA 9:11)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii nauk
SSSR, Moskva.
(Vegetables--Storage) (Fruit--Storage) (Carbon dioxide)

RASHIN, Yury

USSR/Plant Physiology - Respiration and Metabolism.

Publ Jour : *Herb. Zhur.*, No 4, 1953, 15172

Author : Rashin Yu.V., Sverdinskij R.A.

Inst : ~~The Institute of Hydronide Malate on Physiological Chalk
ge in Leningrad.~~

Orig Pub : *Fiziol. rastenij*, 1953, No 3, 138-142

Abstract : The North variety of potato was treated with aqueous solutions of hydronide malate (HM) in concentrations of 1.03, 0.125, 0.25, and 0.5% at various periods: July 22, August 27, September 12 and 25th. The older the plants, the greater was their resistance to HM. A 0.5% solution of HM had no effect on the leaves and tubers of the potato. Under the influence of HM in high concentrations the leaves became yellowish-green, the tubers turned brownish, the weight of the leaves increased, the crop of the tubers decreased, and the tubers shriveling. In the first two periods the quantity of small tubers increased. In the latter periods the quantity of small tubers decreased.

Card 1

RAKITIN, Yu. V.

Date: 1960, May 10, 1965

Place: ~~USSR, Moscow~~

Title: Physicist, engineer
that month.

Origin: Moscow, USSR

Content: Description of the liquid oxygen tank, which was used to store liquid oxygen during the flight of the first Soviet rocket. The tank was located at the top of the rocket, above the engine. The tank was made of stainless steel and had a capacity of approximately 100 liters. It was connected to the engine via a series of valves and hoses. The tank was filled with liquid oxygen before the launch and remained full throughout the flight. The tank was eventually jettisoned after the engine had completed its burn.

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001344

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013441

RAKITIN, Yu.V.; POVOLOTSKAYA, K.L.

Fluorimetric determination of heteroauxin in plants [with summary
in English]. Fiziol.rast. 4 no.3:285-292 My-Je '57. (MIRA 10:7)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii
nauk SSSR, Moskva.
(Indoleacetic acid) (Fluorimetry) (Plants--Chemical analysis)

RAKITIN, Yuriy Vladimirovich

[Using growth-promoting substances in tomato growing] Primenenie
stimuliatorov rosta na kul'ture pomidorov. Moskva, Izd-vo Akad.
nauk SSSR, 1957. 15 p. (MIRA 14:4)
(Tomatoes)

D'YACHKOV, G.S. (stantsiya Red'kino Oktyabr'skoy zheleznoy dorogi);
SVYATOGORSKIY, V.I. (Stantsiya Kochemes, Komi ASSR); RAKITIN, Yu.B., prof.

Development of queer potato forms. Priroda 46 no.12:127 D '57.
(MIRA 10:12)

1. Institut fiziologii rasteniy im. K.A.Timiryazeva AN SSSR (for
Rakitin).

(Potatoes) (Abnormalities (Plants))

RAKITIN, Yu. V.; KRYLOV, A.V.; GARAYEVA, K.G.

Distribution and transformation of methyl ether of α -naphtylactic acid in potato tubers. Dokl. AN SSSR 116 no.4:696-698 O '57.
(MIHA 11:3)

1. Institut fiziologii rasteniy im. K.A. Timiryazeva Akademii nauk
SSSR. Predstavleno akademikom A.L. Kursanovym.
(Potatoes) (Acetic acid)

RAKITIN, Yu.V.; KRYLOV, A.V.; TARAKANOVA, G.A.

Transformation of methyl alcohol in fruits when applied to
stimulate their ripening process. Dokl. AN SSSR 116 no.5:874-878
(MIRA 11:2)
O '57.

1. Institut fiziologii rasteniy im. K.A. Timiryazeva AN SSSR.
Predstavleno akademikom A.L. Kursanovym.
(Fruit--Ripening) (Methanol)

Rakitin, Yu. V.

20-4-47/51

AUTHORS: Rakitin, Yu. V., Krylov, A. V., and Garayeva, K. G.
TITLE: On the Distribution and Transformation of Methyl Ether of α -Naphthalacetic Acid in Potato-Tubers (O raspredelenii i prevrashchenii metilovogo efira α -naftiluksusnoy kisloty v klubnyakh kartofelya)
PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 4, pp. 696 - 698 (USSR)

ABSTRACT: This substance has found a wide distribution as agent of retardation of the potato tubers during their long storing or transport. It was the only substance admitted for the application for potatoes by the Health Ministry of the USSR. It was proved spectrophotometrically that this ether is concentrated mainly in the peripheral layers and in the peels of the tubers. It could not be detected in the marrow of the tubers. This substance turned out to be harmless for the health of men and animals in the prescribed doses. The authors carried out the task given in the title. For this purpose served the mentioned compound with C¹⁴ in the carboxyl group. The germinating tubers of the type Berlichingen from the harvest 1953 served as experimental object. They were investigated at single temperatures. The tubers were exposed to the action of the vapors of the mentioned substance. The method is described in detail. It

Card 1/3

20-4-47/51

On the Distribution and Transformation of Methyl Ether of α -Naphthylacetic Acid in Potato-Tubers

could be assumed that the ether penetrating into the tubers as vapor is transformed into α -naphthylacetic acid and α -methyl-naphthalene in the tissues. If this is the case CO_2 would be separated in consequence of the decarboxylation. In the present case CO_2 will be radioactive. CO_2 was captured by NaOH solution. From it the radioactivity of the solution was computed. From the tubers 2 mm thick slices were cut in order to produce radioautographs and dried between several layers of filter paper at 105°. Then the tuber slices were exposed during 1 month in boxes to a roentgen film. The experiment has confirmed the above mentioned assumption concerning the decarboxylation. With increased temperature increase also the transformations of the preparation. Therefore this ether loses its physiological activity according to the increasing intensity of the metabolism. The radioautographs confirm the already known places of concentration of the preparation which moreover is concentrated in the buds and the vascular system of the tubers. There are 1 figures, and 6 Slavic references.

Card 2/3

RAKITIN, Yu. V.

20-5-43/48

AUTHORS: Rakitin, Yu. V., Krylov, A. V. and Tarasova, G. A.

TITLE: Transformation of Methylalcohol in Fruits, When Applied to Stimulate Their Ripening Process (Prevrashcheniye metilovogo spirta v plodakh pri stimulyatsii im protsesssa sozrevaniya)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 5, pp. 874 - 877 (USSR)

ABSTRACT: The ripeness of the fruits can be stimulated by means of many hydrocarbons, alcohols, acids, ethers, and other stimulants (references 1 - 14). The result of the investigations of the physiological effects of these stimulants (references 7, 14 - 24) was rich actual material about the alterations caused by the stimulants. The question of the transformation of the stimulants, however, was never touched. The authors thought that for a complete explanation of the stimulating effect also this problem must be solved and carried out corresponding experiments. After the detection of the dose of methyl alcohol necessary for the ripeness the study of its transformation was begun after the introduction into the fruit. These experiments were carried out with the aid of radioactive isotopes. The total picture of the transformation of the methyl alcohol appears from table 1. These values show that the transformation

Card 1/2

Transformation of Methylalcohol in Fruits, When Applied to Accelerate Their Ripeness Process 20-5-43/48

shows the same typical picture. The experimental results show that the stimulating dose of the methyl alcohol after its introduction into the fruit subjected to vast transformations up to the complete destruction and formation of carbonic acid. Summary: one third of the introduced methyl alcohol is detoxicated by the fruit by decomposition into its components and eliminated (volatilization). An unimportant part (5,6 %) remains closely connected with the fruit. Approximatively two thirds of the methyl alcohol remains in unchanged state in the fruit during the whole ripening period. There are 2 figures, 1 table, and 24 references, 15 of which are Slavic.

ASSOCIATION: Institute for Plant Physiology imeni K. A. Timiryazev AM USSR
(Institut fiziologii rastenij im. K. A. Timiryazeva Akademii nauk SSSR)
PRESENTED: June 20, 1957, by A. L. Kursanov, Academician
SUBMITTED: June 19, 1957
AVAILABLE: Library of Congress

Card 2/2

HAKITIN, Yury Vladimirovich, professor, doktor biologicheskikh nauk;
USPENSKAYA, N.V., redaktor; GUBIN, M.I., tekhnicheskiy redaktor.

[Use of stimulators and herbicides in plant growing] Ispol'sovanie
stimuliatorov i gerbitsidov v rastenievodstve. Moskva, Izd-vo
"Znanie," 1957. 30 p. (Vsesoiuznoe obshchestvo po rasprostraneniu
politicheskikh i nauchnykh znanii. Ser.8, no.15) (MLRA 10:5)
(Growth promoting substances)
(Herbicides)

RAKITIN, Yu.V.; KRYLOV, A.V.

Physiological changes in plants induced by the growth-inhibiting
action of gamma rays [with summary in English]. Fiziol.rast. 4
no.1:82-85 Ja-F '57. (MLRA 10:5)

1. Institut fiziologii rasteniy im. K.A. Timiryazeva Akademii nauk
SSSR, Moskva.

(Gamma rays--Physiological effect)
(Plants, Effect of radiation on)
(Root crops)

RAKITIN, Yu.V.; SVARINSKAYA, R.A.

Effect of maleic hydrazide on physiological changes in potatoes
[with summary in English]. Fiziol.rast. 4 no.2:138-149 Mr-Ap '57.

1.Institut fiziologii rasteniy im. K.A. Timiryazeva Akademii nauk
SSSR, Moskva.
(Potatoes) (Pyridazine)

RAKITIN YuV
RAKITIN, Yuriy Vladimirovich; KURSANOV, A.L., akademik, otvetstvennyy red.;
TRETYAKOV, N.I., red.izd-va; POLSITSKAYA, S.M., tekhn.red.

[Controlling preharvest dropping of apples and pears] U men'shenie
preduborochnogo opadeniya plodov u iabloni i grushi. Moskva, Izd-vo
Akad.nauk SSSR, 1957. 19 p.
(Apple) (Pear)

RAKITIN, Yuriy Vladimirovich; OVCHAROV, Konstantin Yefremovich; KURSANOV, A.L.,
akadⁿik, otvetstvennyy red.; TIKHON'YEVA, M.I., red.izd-va;
POLESITSKAYA, S.M., tekhnicheskiy red.

[Growth promoting substances and herbicides in cotton growing]
Stimuliatory i gerbitsidy v khlopkovodstve. Moskva, Izd-vo Akad.
nauk SSSR, 1957. 146 p. (MIRA 11:3)

(Cotton growing)

(Growth promoting substances)

(Herbicides)

COUNTRY : USSR
CATEGORY : PLANT PHYSIOLOGY. Respiration and Metabolism.
ABS. JOUR. : REF ZHUK - BIOLOGIYA, NO. 4, 1959, No. 15258
I
AUTHOR : Lekhtin, Yu.V.; Krylov, A.V.; Tarakanova, G.A.
INST. : Inst. of Plant Physiology AS USSR
TITLE : Stimulation of the Ripening Process in Fruits by the Conversion of Methyl Alcohol.

ORIG. PUB. : Dokl. AN SSSR, 1957, 116, No.5, 874-877

ABSTRACT : Unripe persimmon fruit, injected with a 25% aqueous solution of methyl alcohol (0.5 ml of solution to 100 g of dry weight), ripened 8 days after the start of the experiment, injected with 50% methyl alcohol they ripened after 13 days, and with a water injection (control) after 25 days. Radioactive solutions of methyl alcohol were introduced in order to study the conversion of methyl alcohol in the persimmon. The intensity of

CARD: 1/3

COUNTRY : I
CATEGORY : PLANT PHYSIOLOGY. I

ABS. JOUR. : REFL ZHUR - BIOLOGIYA, NO. 4, 1959, No. 15258

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : respiration (by CO₂ liberation) with the use of 50% alcohol was higher for the entire period of the experiment than with injection of a 25% alcohol solution. The most intensive formation of CO₂ at the expense of dissociation of methyl alcohol was observed on the 3rd day; on the 7th day, when the persimmon fruit had ripened, liberation of radioactive CO₂ had practically ceased. On the whole, ~1/3 of the introduced alcohol

CARD: 2/3

RAKITIN, Yu.V.

Conference on the physiology and ecology of plant growth. Fiziol.rast.
5 no.5:477-480 S-O '58. (MIRA 11:11)
(Growth (Plants)--Congresses)

RAKITIN, Yu.V., prof.

Introduction. Itogi nauki i Nauk. no.2,7-42 '58. (MIRA 14:4)
(Growth promoting substances) (Growth inhibiting substances)

RAKITIN, Yu.V.; POVOLOTSKAYA, K.L.; GEYDEN, T.M.; GARAYEVA, K.G.

Maleic acid hydrazide as a means of inhibiting the sprouting of
sugar beet roots during prolonged storage. Fiziol. rast. 5 no.3:
291-295 My-Je '58. (MIRA 11:6)

1. Institut fiziologii rasteniy im. K.A. Timiryazeva Akademii nauk
SSSR, Moskva.

(Sugar beets--Storage)
(Maleic acid)

RAKITIN, Y. V. and KRYLOV, A. V.

"A Study of the Translocation and Transformation of Some Physiologically Active Substances in the Plant."

paper to be presented at 2nd UN Intl. Conf. on the peaceful uses of Atomic Energy, Geneva, 1 - 13 Sep 58.

RAKITIN, Yu.V.; ZEMSEAYA, V.A.

Effect of 2,4-D on nitrogen metabolism in oat and stringbean plants
[with summary in English]. Fiziol. rast. 5 no.2:97-106 Mr-Ap '58.
(MIRA 11:4)

1.Institut fiziologii rasteniy im. K.A. Timiryazeva AN SSSR, Moskva.
(2,4-D) (Nitrogen metabolism) (Oats) (Beans)

RAKITIN, Yu.V., doktor biol. nauk.

Fourth International Congress of Plant Protection. Vest. AN SSSR
28 no.4:76-77 Ap '58. (MIHA 11:5)
(Hamburg--Plants, Protection of--Congresses)

RAKITIN, Yu.V.; SVARINSKAYA, R.A.

Desiccation of the aerial part of potato plants by the use of chemicals
before harvesting. Fiziol.rast. 5 no.5:458-460 S-O '58.
(MIRA 11:11)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR, Moskva.
(Potatoes) (Plants, Effect of drying agents on)

AUTHORS:

Rakitin, Yu. V., Shidlovskaya, I. I. 307/20-122-1-39/11

TITLE:

Detoxication of Some Synthetic Compounds in Plants (O detoksi-
katsii nekotorykh sinteticheskikh veshchestv v rastenii)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, vol 122, Nr 1, pp 142-145
(USSR)

ABSTRACT:

The present experimental evidences lead to the conclusion that toxic substances, having entered into the interior of plants, undergo essential transformations, which are accompanied by a variation of the toxicity stage (Refs 1-4). According to their nature, the toxicity of these compounds may increase, but also decrease (Refs 1,2). If the dosage of the toxic source material has not been excessively high, the increase of the toxicity is just a temporary manifestation, since these compounds experience a detoxication with increasing toxicity (Refs 2,5). With other words, a transformation of the toxines into some less toxic compounds occurs. The authors regard the detoxication as the result of the active resistance of the organism against the noxious influence of the toxines (Refs 1-4). The detoxication was investigated in the laboratory of the authors on the following substances: ethyl alcohol, ethylene chlorohydrin, ammonium

Card 1,2

SOV/20-122-1-39/44

Detoxication of Some Synthetic Compounds in Plants

thiocyanate, thiourea, α -naphthyl acetic acid (ANA), 2,4-dichlorophenoxy-acetic acid, 2,4,5-trichlorophenoxy-acetic acid (2,4,5-T), carbamates, maleic acid hydrazide and others. From the results given in table 1 and 2 it can be concluded: The compounds introduced in the germs of wheat or radishes in adequate (not herbicide) doses (2,4,5-T and amino acids) are detoxicated in the interior of the plant and by this loose their physiological activity. The wheat germs are superior to the radishes regarding their resistance against the compounds in question and the velocity of detoxication. All tested α -naphthyl-acetyl-aminoacids are less toxic than ANA. In this way, if ANA is able to combine with the aminoacids in the plants, this transformation might be considered as a mean to reduce the toxicity of ANA. The observed intensification of the growth process is a consequence of the temporary depression of growth by the discussed toxines.

Card 2/2

There are 2 tables and 9 references, 8 of which are Soviet.

PRESENTED: May 31, 1958, by A. L. Kursanov, Member, Academy of Sciences, USSR

SUBMITTED: May 29, 1958

Czechoslovakia/Plant Physiology. Growth and Development I

Abs Jour : Ref Zhur-Biol., No 13, 1958, 58237

Author : Rakitin V., Povolotskaya T.
Inst : Institute of Physiology, Academy of Sciences
USSR

Title : Fluorometric Method of Determination of Me-
terauxin in Plants

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Abstract : On the basis of the Ebert fluorometric method of determination of indolyl acetic acid (IAA) in pure solutions, a method for the determination of IAA in plant tissues has been developed. The fluorescence of the products of the reaction between IAA and sulfuric acid in the presence of copper sulfate was determined on a fluorometer with two light filters. The inten-

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Abstract : sity of the fluorescence was proportional to the concentration of IAA within the limits of 0.5 to 2 /ml. Triptophan, -indolyl butyric acid, -indolyl propionic acid, N-ethyl indolyl-3-acetic acid, -naphthyl acetic acid, DL-catechin, epigallo catechin, chlorophyll, riboflavin, and antocyanins were not fluorescent as a result of the reaction with sulfuric acid and copper sulfate. To determine the concentration of indolyl acetic acid, a standard scale was constructed. The free indolyl acetic acid was extracted with the help of acidified alcohol with ether linked after hydrolysis with an alcohol alkali. The maximum spectrums of absorption in the reaction of indolyl acetic acid and H₂SO₄ with the extract from tissues coincided, a fact which pointed to their identity. The

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